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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/694,844

10/29/2003

Raphael Duval

PET-1802 D2

2492

23599

7590

09/28/2009

MILLEN, WHITE, ZELANO & BRANIGAN, P.C.  
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ARLINGTON, VA 22201

EXAMINER

HENRY, MICHAEL C

ART UNIT

PAPER NUMBER

1623

NOTIFICATION DATE

DELIVERY MODE

09/28/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@mwzb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/694,844	<b>Applicant(s)</b> DUVAL, RAPHAEL	
	<b>Examiner</b> MICHAEL C. HENRY	<b>Art Unit</b> 1623	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1,6-12,14 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-5,13,15 and 17-25 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/17/09 has been entered.

The following office action is a responsive to the Amendment filed, 08/17/09.

The amendment filed 08/17/09 affects the application, 10/694,844 as follows:

1. Claims 2, 4, 5, 13, 17-22 have been amended. New Claims 24 and 25 have been added. Claims 1, 6-12, 14 and 16 are withdrawn. Applicant's amendments have overcome the rejections made under 35 U.S.C. 103(a) of the prior office action mailed 04/15/09. However, a new ground(s) rejection set forth herein.
2. The responsive to applicants' arguments is contained herein below.

Claims 1-25 are pending in the application.

#### ***Claim Objections***

Claims 2-5, 13, 15, 20-25 are objected to because of the following informalities: Claims 2, 13, 18, 2025 recite the phrase "intermolecularary" which appears to contains a typographical error. It appears that the word "intermolecularary" should be replaced by the word "intermolecularly". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2-5, 13, 15, 20-25 are rejected under 35 U.S.C. 112, first paragraph, for scope of enablement because the specification, while being enabling for said compound or composition being insoluble in specific organic solvents, it does not reasonably provide enablement for the compound or composition being insoluble all organic solvents.

For example, the insolubility of the compound or composition in all or any one of the numerous organic solvents, would reasonably broadly encompass those known and unknown organic solvents as of the instant filing date, as well as those future known compounds yet to be discovered or prepared.

The instant specification fails to provide information that would allow the skilled artisan to fully practice the instant invention without ***undue experimentation***. Attention is directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors:

(1) the nature of the invention; (2) the state of the prior art; (3) the relative skill of those in the art; (4) the predictability or unpredictability of the art; (5) the breadth of the claims; (6) the amount of direction or guidance presented; (7) the presence or absence of working examples; and (8) the quantity of experimentation necessary.

1. The nature of the invention: The instant invention pertains to a support material consisting essentially of a cross-linked polymer compound in a three-dimensional network, comprising a radical of a given general formula wherein said polymer compound is intermolecular, cross-linked in a tri-dimensional network and is insoluble in organic solvents.

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2. The state of the prior art: The skilled artisan would view the compound or composition as being insoluble in all the numerous solvents that exist, as not possible.

3. The predictability of the art, and the breadth of the claims:

It is highly unpredictable which solvent or whether or not the compound would be insoluble in a particular organic solvent, especially as required by the claim. Such determination would require numerous or several trials and experimental processes. Also, the preparation or synthesis of novel chemical compounds is highly complex and unpredictable. That is, there is no routine, predictable way whether or not the said compound would be soluble in a particular organic solvent. Furthermore, it should be noted that the claim encompasses the use of numerous organic solvents or compounds since numerous solvents or compounds that are solvents with numerous distinct or unique structures, physical and chemical properties are known to exist in nature.

4. The presence or absence of working examples: It is noted that the specification merely provides a working example to demonstrate that some specific solvents that can be used with said compound or composition (see page 9). That is, the evidence in the examples provided is not commensurate in scope with the claimed invention and does not demonstrate criticality of the numerous compounds that are encompassed by applicant's claimed method. See MPEP § 716.02(d).

Further, those unknown or future known organic solvents or compounds must require additional or future research to discover, synthesize or prepare. Therefore, the skilled artisan has to exercise undue experimentation to practice the instant invention.

Thus, the specification fails to provide sufficient support of the broad number and variety of the compounds that are encompassed by the instant claim. As a result, necessitating one of

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skill to perform an exhaustive search for the embodiments and organic solvents or compounds that are encompassed by the instant claims suitable to practice the claimed invention.

*Genentech*, 108 F.3d at 1366, states that “a patent is not a hunting license. It is not a reward for search, but compensation for its successful conclusion” and “[p]atent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable”.

Therefore, in view of the *Wands* factor and *In re Fisher* (CCPA 1970) discussed above, to practice the claimed invention herein, a person of skill in the art would have to engage in undue experimentation to prepare and test organic solvents or compounds encompassed in the instant claims, with no assurance of success.

### ***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

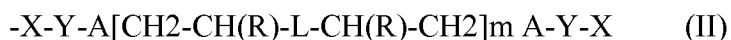
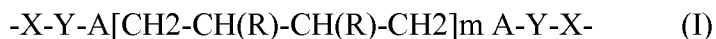
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5, 13, 15, 17-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Pouyani et al. (Bioconjugate Chem. 1994, 5, 339-347).

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Claim 2 is drawn to a support material consisting essentially of a cross-linked polymer compound in a three-dimensional network, comprising a radical of general formula (I) or (II):



where X represents an oxygen atom or the group -NH, m is an integer other than zero equal at most to 5, R represents a hydrogen atom or a substituted or non-substituted, linear or branched alkyl radical having from 1 to 8 carbon atoms, Y represents a -NH-CO-group, -NH-CS group or -CO-group, A represents a single bond, a linear or branched alkylene radical having from 1 to 21 carbon atoms, an arylene radical having from 6 to 18 carbon atoms or an aralkylene radical having from 7 to 40 carbon atoms, L represents a bis-thioether radical, of general formula (IIIa), bis-sulphoxide radical of general formula (IIIb), or bis-sulphone radical, of general formula (IIIc), or a bis-silane radical of general formula (IV) and wherein said polymer compound is intermolecularly, cross-linked in a tri-dimensional network and is insoluble in organic solvents.

Pouyani et al. teach cross-linked polymer compound (intermolecularly cross-linked polysaccharide, Hyaluronic acid) (see page 341, 2<sup>nd</sup> col., last paragraph, compound 6; see also page 346, scheme 5, compound 6-9). Pouyani et al. does not explicitly describe the physical characteristics of the prepared cross-linked polymer compound or composition such as its solubility in solvents such as organic solvents. But, the silence of Pouyani et al. does not mean that the compound does not have these limitations. Pouyani et al. anticipates the claims if their compound has all the claimed limitations. Pouyani et al. renders the claims as being obvious if compound or composition is substantially close in terms of having the claimed limitations. It should be noted that Pouyani et al.'s compound or composition is the same as applicant's and should inherently have the same properties or effect of being a support material. Also, it should

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be noted that it is well settled that “intended use” of a composition or product, e.g., support material, does not further limit claims drawn to a composition or product. See, e.g., *Ex parte Marsham*, 2 USPQ2d 1647 (1987) and *In re Hack* 114, USPQ 161. Claims 3-5, which are drawn to said support material wherein the support material is of specific form or shape or specific % are also encompassed by this rejection since as set forth above the silence of Pouyani et al. does not mean that the compound does not have these limitations. Moreover, it should be noted that Pouyani et al.’s compound or composition is the same as applicant’s and should inherently have the same properties or effect of being a support material. Also, it should be noted that it is well settled that “intended use” of a composition or product, e.g., support material, does not further limit claims drawn to a composition or product. See, e.g., *Ex parte Marsham*, 2 USPQ2d 1647 (1987) and *In re Hack* 114, USPQ 161.

Claim 13 is drawn to a percolation membrane comprising a cross-linked polymer compound in a three-dimensional network, comprising a radical of general formula (I) or (II) wherein said polymer compound is intermolecularly, cross-linked in a tri-dimensional network and is insoluble in organic solvents.

Pouyani et al. teach cross-linked polymer compound (intermolecularly cross-linked polysaccharide, Hyaluronic acid) (see page 341, 2<sup>nd</sup> col., last paragraph, compound 6; see also page 346, scheme 5, compound 6-9). Pouyani et al. does not explicitly describe the physical characteristics of the prepared cross-linked polymer compound or composition such as its solubility in solvents such as organic solvents. But, the silence of Pouyani et al. does not mean that the compound does not have these limitations. Pouyani et al. anticipates the claims if their compound has all the claimed limitations. Pouyani et al. renders the claims as being obvious if compound or composition is substantially close in terms of having the claimed limitations. It



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should be noted that Pouyani et al.'s compound or composition is the same as applicant's and should inherently have the same properties or effect of being a percolating membrane. Also, it should be noted that it is well settled that "intended use" of a composition or product, e.g., percolating membrane, does not further limit claims drawn to a composition or product. See, e.g., *Ex parte Marsham*, 2 USPQ2d 1647 (1987) and *In re Hack* 114, USPQ 161.

In claim 15, applicant disclose a support material according to claim 2, wherein the radical of general formulae (I) or (II) is bound to at least one osidic chiral unit of a linear, branched or cyclic linkage of a polysaccharide or oligosaccharide derivative according to the general formulae (VII) and (VIII).

Pouyani et al. teach cross-linked polymer compound (cross-linked polysaccharide, Hyaluronic acid) (see page 341, 2<sup>nd</sup> col., last paragraph, compound 6; see also page 346, scheme 5, compound 6-9). Pouyani et al. does not explicitly describe the physical characteristics of the prepared cross-linked polymer compound or composition such as its solubility in solvents such as organic solvents. But, the silence of Pouyani et al. does not mean that the compound does not have these limitations. Pouyani et al. anticipates the claims if their compound has all the claimed limitations. Pouyani et al. renders the claims as being obvious if compound or composition is substantially close in terms of having the claimed limitations. It should be noted that Pouyani et al.'s compound or composition is the same as applicant's and should inherently have the same properties or effect of being a support material. Also, it should be noted that it is well settled that "intended use" of a composition or product, e.g., support material, does not further limit claims drawn to a composition or product. See, e.g., *Ex parte Marsham*, 2 USPQ2d 1647 (1987) and *In re Hack* 114, USPQ 161.

Claims 17-23 are drawn to said composition or support material consisting essentially of a cross-linked polymer compound in a three-dimensional network, comprising a radical of general formula (I) or (II) wherein said polymer compound is intermolecularly, cross-linked in a tri-dimensional network and is insoluble in organic solvents.

Pouyani et al. teach cross-linked polymer compound (cross-linked polysaccharide, Hyaluronic acid) (see page 341, 2<sup>nd</sup> col., last paragraph, compound 6; see also page 346, scheme 5, compound 6-9). Pouyani et al. does not explicitly describe the physical characteristics of the prepared cross-linked polymer compound or composition such as its solubility in solvents such as organic solvents. But, the silence of Pouyani et al. does not mean that the compound does not have these limitations. Pouyani et al. anticipates the claims if their compound has all the claimed limitations. Pouyani et al. renders the claims as being obvious if compound or composition is substantially close in terms of having the claimed limitations. It should be noted that Pouyani et al.'s compound or composition is the same as applicant's and should inherently have the same properties or effect of being a support material. Also, it should be noted that it is well settled that "intended use" of a composition or product, e.g., support material, does not further limit claims drawn to a composition or product. See, e.g., *Ex parte Marsham*, 2 USPQ2d 1647 (1987) and *In re Hack* 114, USPQ 161.

### ***Response to Arguments***

Applicant's arguments with respect to claims 2-5, 13, 15 and 17-25 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Henry whose telephone number is 571-272-0652.

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The examiner can normally be reached on 8.30am-5pm; Mon-Fri. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael C. Henry  
September 16, 2009.

/Shaojia Anna Jiang/  
Supervisory Patent Examiner  
Art Unit 1623